

What is claimed is:

1. A device for occluding a uterine tube portion having an interior diameter, comprising:

a body comprising a forward section having a tapered outer surface, and a flexible large diameter section adjacent said forward section having a diameter greater than the interior diameter of the uterine tube portion; and

an insert disposed along a central axis of said body and mechanically attached to said body.

2. The device according to claim 1, wherein:

said insert is formed from a hard material relative to said body.

3. The device according to claim 1, wherein:

said insert includes a plurality of barbs which engage said uterine tube portion.

4. The device according to claim 1, which is inserted into the blood vessel by use of an insertion device, wherein:

said insert has a longitudinal axis and a pilot hole along said longitudinal axis for receiving the insertion device.

5. The device according to claim 1, wherein:

said body comprises an elastomeric biocompatible material.

6. The device according to claim 5, wherein:

said elastomeric biocompatible material comprises silicon.

7. Apparatus for occluding a blood vessel having an interior diameter, comprising:

a) a plug device including

(i) a body comprising a forward section having a tapered outer surface, and a flexible large diameter section adjacent said forward section having a diameter greater than the interior diameter of the blood vessel, and

(ii) an insert formed of hard material relative to said body, said insert extending along a longitudinal axis of said plug device; and

b) an insertion device having means to attach said insert to the insertion device.

8. The apparatus according to claim 7, wherein:

said insert has a pilot hole which receives said means to attach.

9. An apparatus according to claim 8, wherein:

said insertion device comprises a needle, a tubular needle guard surrounding said needle, said needle fitting into said pilot hole of said body, and a spring-biased lever operable to retract said needle into said tubular needle guard.

10. An apparatus according to claim 7, wherein:

said plug device is mounted on said insertion device.

11. An apparatus according to claim 7, comprising:

a plurality of said plug devices.

12. A device for occluding a uterine tube portion having an interior diameter, comprising:

a body comprising a tapered outer surface and a flexible large diameter section having a diameter greater than the interior diameter of the uterine tube portion; and

an insert into said body comprising a plurality of spring-biased prongs extending beyond said body and radially outward with respect to a central axis of said device.

13. The device according to claim 12, wherein:

said body includes an exterior surface layer of elastomeric biocompatible material supported by an interior frame structure.

14. The device according to claim 13, wherein:

said frame structure includes projections that extend radially inward toward said central axis of said device, said insert being held in place by said projections.

15. The device according to claim 12, wherein:

said elastomeric biocompatible material comprises silicone.

16. The device according to claim 12 which is inserted into the uterine tube portion by use of an insertion device, wherein:

said insert includes a pilot hole for receiving said insertion device.

17. A method of occluding a uterine tube portion having an interior diameter, the method comprising:

providing a plug body comprising a tapered outer surface and a large diameter section having a diameter greater than the interior diameter of the uterine tube portion, said plug body having a central axis;

substantially aligning said central axis of said plug body with a longitudinal axis of the uterine tube portion;

applying an axial force to insert said plug body into said uterine tube portion; and

removing said axial force such that a wall section of uterine tube portion grasps onto said plug body to hold it in place.

18. A method of occluding a uterine tube portion according to claim 17, wherein:

the axial force is applied with an insertion device having means to attach said plug body to the insertion device.

19. A method of occluding a uterine tube portion according to claim 18, wherein:

the insertion device comprises a needle, a tubular needle guard surrounding the needle, the tubular needle guard fitting into a pilot hole of the plug body, and a spring-biased lever operable to retract the needle into the tubular needle guard to release an attached plug body,

the method further comprising the step of operating said lever to release said plug body.